

REMARKS

Applicants appreciate the Examiner's review of the present application and respectfully request reconsideration based on the previous amendments and following remarks. Claims 1-52 are pending in the present application.

Missing PTO Form 1449

Applicants note that the office action did not include PTO form 1449 from a Supplemental Information Disclosure Statement (IDS) submitted on November 19, 2004. A copy of the Supplemental IDS is attached to this response. Applicants request the Examiner to return an initialed copy of the PTO form 1449.

Objections to the Specification and Claims

Applicants have amended the specification and also Claims 8, 16, 18, and 48 to address the Examiner's objections. Applicants appreciate the Examiner's suggestions for correcting the claim language.

Rejections under 35 U.S.C. 112

The Examiner has rejected Claims 9, 18, 26, 43, and 45 under 35 U.S.C. §112 second paragraph. Applicants have corrected the antecedent basis problems and appreciate the Examiner's suggestions for correcting the claims.

Rejections under 35 U.S.C. 102

The Examiner has rejected Claims 1-6 and 9 under 35 U.S.C. §102(b) as being anticipated by Frostrom et al. (U.S. Patent No. 5,465,393). Applicants traverse this rejection.

Frostrom specifically separates a radio path into an up-link and down-link path. See Frostrom Col. 2 lines 14-16, Col. 3 lines 17-51 and Fig. 1. Frostrom avoids using the same paths to avoid introducing frequency modulations and signal reflections into the test system. The present invention does not suffer from this limitation. Applicants have amended Claim 1 to recite that “bi-directional RF signals between said RF combining component and said test node pass through said adjustable attenuation component”. Claim 1 as amended. The present invention allows the emulation of a wireless environment, including inter alia, the ability to have multiple test nodes, all communicating with other nodes and test points, and incurring interference and collisions over an emulated RF environment. Frostrom does not disclose this ability. Not only does Frostrom separate the up link and down link paths, Frostrom’s design also isolates the mobile stations from each other. See Figs. 1 and 3. The base stations are also isolated from each other. This is different from the present invention as disclosed in Claim 1, and Applicants assert that Claim 1 and all claims dependent upon it are allowable.

The Examiner has rejected Claims 17-19 and 22-23 under 35 U.S.C. §102(b) as being anticipated by Oh et al. (U.S. Patent No. 6,438,357). Applicants traverse this rejection.

The Examiner states that Oh discloses an isolation chamber refers to item 21 in Fig. 1. Applicants respectfully point out that the item 21 is a decoder circuit. See Col. 3 line 19 and also Col. 4 lines 35-39. Even if Oh did disclose an isolation chamber, the devices 62, 64, 66 are located **outside** of the isolation chamber. Applicants have amended Claim 17 to more clearly recite the feature of an isolation chamber having an RF device under test placed within it. Accordingly, Applicants assert that Claim 17 and all claims dependent upon it are allowable.

Rejections under 35 U.S.C. 103(a)

The Examiner has rejected Claims 8, 10-13, and 15-16 under 35 U.S.C. §103(a) as being obvious by Frostrom et al. (U.S. Patent No. 5,465,393) by itself. Applicants traverse this rejection.

Since Claim 8 depends on allowable Claim 1, therefore Applicants assert that it is allowable.

Regarding Claim 10, the Examiner states that since it has the substantially the same limitations and apparatus Claims 1 and 8, it is rejected for the same reasons. Applicants traverse this rejection. Applicants respectfully point out that this is an improper rejection, and that each claim must be examined in terms of the limitations it recites. Further, Claim 10 does not recite the same elements as Claims 1 and 8. Claim 1 recites an apparatus for **testing** wireless devices; Claim 10 recites a method for **emulating** a wireless environment for wireless devices. Claim 1 recites a **test node**; Claim 10 recites a providing a **plurality of connection nodes**. Claim 8 recites shielded RF **cables**; Claim 10 recites each connection node **including a shielded RF path**. Claim 1 recites an attenuation component to **vary** RF signal strength; Claim 10 recites attenuating at least one RF signal on one of said shielded RF paths, in order to **emulate decreased signal strength** within said emulated RF environment. Applicants assert that these claims are different. Further, Applicants assert that Claim 10 is allowable over Frostrom (used in the Examiner's rejection of Claim 1), because Claim 10 recites combining RF signals from the connection nodes. As described in response to the rejection of Claim 1, Frostrom carefully separates paths to prevent base stations from 'hearing' signals from each other, and also does the same for mobile stations. Accordingly, Applicants assert that Claim 10 and all claims dependent upon it are allowable.

Regarding Claims 11-13 and 15-16, the Examiner states that since they have the substantially the same limitations and apparatus Claims 4-6 and 8-9, they are rejected for the same reasons. Applicants traverse this rejection. As previously shown, Claims 11-13 and 15-16 depend from allowable Claim 10, therefore they are allowable. Further, they do not recite the same elements as the previously cited claims. Claim 11 recites decreased signal strength caused by distance between connection nodes. None of Claims 4-6 or 8-9 recite this. Claim 12 recites attenuating RF signals on said shielded RF paths in order to emulate distances between said connection nodes in said emulated RF environment that correspond to said emulated spatial positions for each of said connection nodes. None of Claims 4-6 or 8-9 recite this. Claim 13 recites changing an attenuation level of RF signals on said shielded RF paths. None of Claims 4-6 or 8-9 recite this. Claim 15 recites distorting an RF signal on one of said shielded RF paths to emulate RF signals distorted by signal reflections in said emulated RF environment. None of Claims 4-6 or 8-9 recite this. Claim 16 (as amended) recites connection nodes depicted in spatial relation to each other as defined by **said information on spatial position** for each of said connection nodes. None of Claims 4-6 or 8-9 recite this, and Frostrom does not disclose this. Accordingly, Applicants assert that these claims are allowable.

The Examiner has rejected Claims 7 and 14 under 35 U.S.C. §103(a) as being obvious by Frostrom et al. (U.S. Patent No. 5,465,393) in view of Labedz et al. (U.S. Patent No. 6,308,072). Applicants traverse this rejection.

Claim 7 and 14 recite creating interference using **RF signals**. Labedz does not disclose this. In the abstract, Labedz discloses simulating **the effects** of interfering AMPS wireless communications systems. Turning to the specification of Labedz, Labedz discloses simulating AMPS interference using algorithms. See Col 12 lines 33 to Col. 14 line 7. This is very different from creating actual interference using RF signals. Accordingly, neither Frostrom or Labedz disclose each and every feature as recited by Claims 7 and 14.

The Examiner has rejected Claims 20-21 and 24-28 under 35 U.S.C. §103(a) as being obvious by Oh et al. (U.S. Patent No. 6,438,357) by itself. Applicants traverse this rejection.

Regarding Claims 20 and 21, the Examiner states that “every port should have a DC signal detector and DC signal injector because without a signal detector and injector, the port cannot detect incoming signal or inject signal for transmitting to other devices.” Applicants respectfully point out that the claims recite DC (direct current) detection and injection, which is entirely different from ports detecting or transmitting RF waveforms, which are not DC signals. These features are not obvious, and the stated reason for combining this feature (“to communicate with other devices”) does not make sense. Accordingly, Applicants request the Examiner to withdraw this rejection.

Regarding Claims 24-28, these claims are dependent upon allowable Claim 17. Further, regarding Claims 25-26, the claims recite access to RF signals, and injection of RF signals at access locations, which is not “installing of input/output [locations]”. With regard to Claim 27, the claim recites a system synchronization signal for use in **processing received data**. This is different from synchronizing one device with another. With regard to Claim 28, the claim recites that said RF module is detachably mountable within an RF isolation chassis, wherein said RF port on said RF module connects to an RF combining component within said RF isolation chassis, said RF combining component combining RF signals from said RF module and at least one other RF device. The rejection that this setup “a matter of choice” is improper, and Applicants request that this rejection be withdrawn.

The Examiner has rejected Claims 29-46 under 35 U.S.C. §103(a) as being obvious by Oh et al. (U.S. Patent No. 6,438,357) in view of Labedz et al. (U.S. Patent No. 6,308,072). Applicants traverse this rejection.

Regarding Claim 29, the Examiner states that Oh discloses “virtual client emulators” and refers to Fig. 1 items 62, 64, 66. These are not virtual client emulators, these are mobile stations. See Col. 3 lines 14-15. Applicants assert that Oh does not disclose anything related to virtual clients. Further, neither Oh or Labedz disclose or make obvious “wherein said virtual client emulator is in communication with said modulator/demodulator component to allow said at least one virtual client to transmit RF signals into said RF test environment”, as recited by Claim 29. Accordingly Applicants assert that Claim 29 and all claims dependent on it are allowable.

With regard to Claims 30-33, the Examiner admits that neither Oh or Labedz disclose creating invalid data frames, but that “to perform a specific test in a lab such as interference or collision detection, the system must transmit a data frame at a time when another device is transmitting data”. Applicants are unable to follow this explanation, but Applicants assert that this is an impermissible use of hindsight, with no support from any prior art. Accordingly, Applicants respectfully request that this rejection be withdrawn and the claims allowed.

With regard to Claims 37-38, Applicants assert that these claims are allowable for the same reason as described above for Claim 28.

The Examiner states that Claims 39-46 have substantially the same limitations as Claims 29-36 and are rejected for the same reasons. Applicants assert that since Claims 29-36 are allowable as described above, then Claims 39-46 are also allowable. Further, Claims 39-46 recite different limitations. Claim 39 recites, inter alia, “wherein said virtual clients each maintains information regarding such data frames”. None of Claims 29-36 recite this. Claim 40 recites “39 wherein said virtual clients transmit and receive data frames in compliance with a selected wireless communications standard”. None of Claims 29-36 recite this. Claim 41 recites “wherein when at least one virtual client is transmitting data frames into said RF test

environment, a signal strength of an RF signal being transmitted from said modulator/demodulator component into said RF test environment is reduced". None of Claims 29-36 recite this. Further, each of Claims 42-46 include limitations that are not recited in Claims 29-36. Accordingly, Applicants assert that these claims are allowable.

The Examiner has rejected Claim 47 under 35 U.S.C. §103(a) as being obvious by Frostrom et al. (U.S. Patent No. 5,465,393) in view of Oh et al. (U.S. Patent No. 6,438,357). Applicants traverse this rejection. Claim 47 depends on allowable Claim 11, and therefore also is allowable.

The Examiner has rejected Claims 48-52 under 35 U.S.C. §103(a) as being obvious by Oh et al. (U.S. Patent No. 6,438,357) by itself. Applicants traverse this rejection.

The Examiner states that Oh discloses isolating the wireless device in an RF isolation chamber, and refers to Col. 1 lines 48-52. Applicants respectfully point out that Oh does not disclose an isolation chamber, Oh merely discloses testing in a laboratory setting. There is no disclosure in Oh of using an RF isolation chamber. Further, Oh does not disclose establishing RF communications between said wireless device and said first access point over one of said shielded RF paths, or monitoring said wireless device as said wireless device establishes RF communication with said second access point over said shielded RF path to said second access point, at Col. 1 line 48 to Col. 2 line 12, Col. 3 lines 61-67, Col. 4 lines 41-49, or at any other part of the disclosure. Accordingly, Oh does not disclose all the features recited in Claim 48, and Claim 48 and all claims dependent upon it are allowable. Further, with regard to Claim 52, the Examiner states that "measuring the time required for a wireless device to establish RF communication with the second access point is a matter of choice because a timer can be used to measure the time." Applicants respectfully point out that the claim doesn't recite "a timer", the claim recites monitoring the wireless device including measuring the time it takes to perform a

task. Applicants believe that this is an impermissible use of hindsight, with no support from any prior art, and respectfully request the Examiner to withdraw this rejection. Accordingly, Applicants assert that this claim is allowable.

Double Patenting Rejection

The Examiner has rejected Claims 1-46 under the doctrine of obviousness-type double patenting over co-owned U.S. Patent 6,724,730. Applicants submit a terminal disclaimer to overcome this rejection.

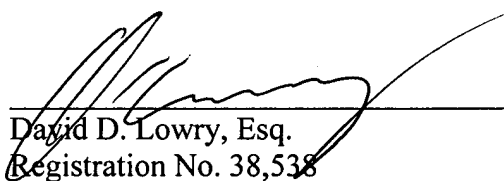
Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

In the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-0369 therefore.

Respectfully submitted,

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